WHAT IS CLAIMED IS:

1.   A method for predicting the biological activity of an herbal composition

comprising:

        a).   exposing a biosystem to a batch herbal composition and measuring the

differential responses of two or more molecular markers, wherein the set of differential

response measurements constitute an Herbal BioResponse Array (HBR Array) data set;

        b).   comparing the HBR Array of the batch herbal composition to a least one

previously-obtained HBR Array of a known herbal composition with at least one

known biological activity; and,

        c).   predicting the biological activity of the batch herbal composition based

on the HBR Array comparison made in step b).

2.   The method of claim 1 further comprising repeating steps a) through c) for one

or more additional batches of the herbal composition and selecting the batch herbal

composition which has the desired biological activity.

3.   The method of claim 1 wherein additional previously-obtained HBR Arrays are

used for the HBR Array comparison of step b).

4.   The method of claim 1 or 3 wherein the markers are selected from the group

consisting of molecular markers, cytogenetic markers, biochemical markers and

macromolecular markers.

5.   The method of claim 1 or 3 wherein the previously-stored HBR Arrays are

standardized HBR Arrays for the same or substantially similar herbal compositions as

that of the batch herbal composition.

6.   The method of claim 5 further comprising adjusting or modifying the batch

herbal composition to produce a HBR Array substantially similar to that of one or more

of the standardized HBR Arrays.

7.   The method of claim 1 or 3 further comprising using the results of the HBR

Array comparisons to identify specific molecules in the batch herbal composition

which retain the desired biological activity of the known herbal composition.

8.   The method of claim 1 or 3 further comprising using the results of the HBR

Array comparisons to determine which herbal components of a known herbal

composition can be eliminated from the known herbal composition while maintaining

or improving the desired biological activity of the known herbal composition.

9.   The method of claim 1 or 3 wherein the results of the HBR Array comparisons

identify one or more previously unknown biological activities for the batch herbal

composition.

10.   The method of claim 1 or 3 further comprising using the predicted biological

activity of the batch herbal composition to aid in the design of therapeutics which

include herbal components and synthetic chemical drugs.

11.   A method of establishing a standardized Herbal BioResponse Array (HBR

Array) for an herbal composition, wherein the method comprises:

     a).   selecting an herbal composition with at least one known BioResponse;

     b).   exposing a biosystem to a batch of the herbal composition and collecting

data on two or more markers;

     c).   storing the marker data of step b) as an HBR Array;

     d).   repeating steps b) and c) for one or more additional batches of the herbal

composition using two or more of the same or different markers than used in step b);

     e).   combining the HBR Arrays obtained in steps c) and d); and,

     f).   analyzing the combined HBR Array of step e) to generate a standardized

HBR Array for the herbal composition, wherein the standardized HBR Array has data

for two or more markers which are correlated with at least one known BioResponse of

the herbal composition.

12.   The method of claim 11 further comprising exposing a biosystem to one or

more batches of the herbal composition, collecting data on one or more BioResponses, and adding the collected BioResponse data to the standardized HBR Array for that herbal composition.

5   13.   A method of evaluating an herbal composition comprising:

       a).   exposing a biosystem to a batch of the herbal composition and collecting data on two or more markers; and

       b).   comparing the collected marker data with a standardized HBR Array for the same or a substantially same herbal composition as that of the batch herbal 10 compositions.

14.   The method of claim 13 further comprising predicting the BioResponse of the batch herbal composition.

15   15.   The method of claim 11 or 13 wherein the markers are selected from the group consisting of molecular, cytogenetic, biochemical and macromolecular markers.

16.   The method of claim 11 or 13 wherein the standardized HBR Array further comprises information on plant-related data.

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17.   A method of establishing a standardized Herbal BioResponse Array (HBR

Array) for an herbal composition with a known BioResponse, wherein the method

comprises:

a).   exposing a biosystem to a batch of the herbal composition and

measuring the qualitative and quantitative changes of the resulting gene expressions to

generate data as an HBR Array for that batch;

b).   repeating step a) using different preparations of the herbal composition

to generate data as additional HBR Arrays;

c).   selecting a set of discriminating genetic markers by analyzing the HBR

Arrays obtained in steps a) and b) to establish a standardized HBR Array for the herbal

composition.

18.   A method of evaluating an herbal composition comprising:

a).   exposing a biosystem to a batch of the herbal composition and

measuring the qualitative and quantitative changes of the resulting gene expressions to

present as an Herbal BioResponse Array (HBR Array) for that batch; and,

b).   comparing the HBR Array obtained in step a) with a standardized HBR

Array for a substantially equivalent herbal composition.

19.   The method of claim 17 or 18 wherein gene expression takes place

transcriptionally.

20.   The method of claim 17 or 18 wherein gene expression takes place translationally.

21.   The method of claim 1, 11, 12, 13, 17 or 18 wherein the biosystem is selected from the group consisting of cells, tissues, organs, whole organisms and *in vitro* assays.

22.   The method of claim 11, 14 or 17 wherein the BioResponse is selected from the group consisting of physiological responses, morphological responses, cognitive responses, motivational responses and autonomic responses.

23.   A system for predicting the biological activity of an herbal composition comprising:

    a.   a biosystem comprising one or more different types of cells, tissues, organs or *in vitro* assays;

    b.   a batch herbal composition;

    c.   two or more molecular markers;

    d.   a means for exposing the biosystem to the batch herbal composition and measuring the differential responses of the molecular markers;

    e.   a computer processor, including memory, for analyzing and storing the differential response measurements of the molecular markers so as to create an Herbal BioResponse Array (HBR Array) data set for the batch herbal composition;

f. a computer processor, including memory, for comparing the HBR Array

of the batch herbal composition to one or more previously-stored HBR Arrays so as to

predict the biological activity of the batch herbal composition, wherein the biological

activities of the herbal compositions used to generate the one or more previously-stored

5 HBR Arrays are known.